NBC NEWS-COLUMBIA DISASTER (2.48 P.M E.T - 4.56 P.M E.T) (2-1-2003)

https://www.youtube.com/watch?v=1v5NG_43je0 (https://www.youtube.com/watch?v=1v5NG_43je0)

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From Saturday, February 1st, 2003 NBC NEWS breaking news coverage of the Columbia Space Shuttle breakup killing the crew of 7. STS-107 was wrapping up a 16 day mission in space, communication was lost at 9:00 A.M E.T, just 16 minutes before landing and breaking up over Texas.

- Coverage runs from 2.48 P.M E.T - 4.56 P.M E.T

  THE STS-107 Crew:
  Commander: Rick D. Husband
  Pilot: William C. McCool
  Mission Specialist 1: David M. Brown
  Mission Specialist 2: Kalpana Chawla
  Mission Specialist 3: Michael P. Anderson
  Mission Specialist 4:Laurel B. Clark
  Payload Specialist 1: Ilan Ramon

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what ways do you have let's say you've reached orbit you're in the shuttle for a mission of a specific duration and and you have reason to believe that something on the exterior is a miss uh what ways do you have to check it out are there sensors or is it only a spacewalk well you do also have the robot arm the what's called the rms which could be maneuvered around it has a camera on the end of it but it cannot look at every part of the space shuttle it could not for example look at the tiles down around the wheel well or other areas down there so a space walk or if in fact there were some other photography capable from long distance whether it was from a space asset or from the earth that's that's the only other way and we want to also remember we have alan bean with us on the phone alan i want to go back to the last thing you said we were talking about whether something fortunate could come out of this what in your estimation would it take from square one all the way through the pipeline if someone at nasa perhaps the administrator did say you know what we're going to use this as a jumping on point to bring out a new generation of orbiter well i think some people at nasa would greet that with excitement others would say look we've got the best piece of hardware we could build admittedly it's 20 years old but we've upgraded it we think we've got the best we can make you know talk is cheap about getting something better next week or next year but when you've got something that's as good as an orbiter and represents the best this country can do it's a good thing to start operating it and using it and not stop using it and go off on you know to try to invent the next stage we're trying to build a space station we

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we're trying to build a space station we need an orbiter now we don't need some new one 10 years from now well maybe we do but we need one now that works and we've got one it just had an accident we've got to find out what's wrong and then get back in the construction of the space station business and not you know not spend our money all this is money as you realize so we'd have to spend money to do that instead of correct this era in a fundamentally wonderful machine as rick houck would say who flew it after the challenger accident he was the first pilot there and i think he'd be the first to stand up and say that the shuttle is a great machine but machines are built by humans humans aren't perfect we're always going to have problems with machines whether it's computers spaceships airplanes cars because they're built by humans they're just an extension of what we can do and we all know human beings aren't perfect we try we do the best we can but we aren't perfect alan would you pull a john glenn and go up again if you could right now well i would but i would recommend not sending me i would recommend sending some guy like bill gates or somebody an entrepreneur up there and let him uh fly in space and look around and see what businesses could be created from the space environment some guy like me i'm an engineer test pilot i've never started a business i don't know and we need businesses in space so i would say don't send me send send this guy that was that started virgin atlantic airways i don't know what his name but he started 200 businesses we need to send those kind of people up there somewhere richard branson is probably smiling ear to ear at your suggestion and who knows maybe we can look into it mr houck do you concur with that i think alan's right on we do need to continue to operate this magnificent machine and that's one of the big questions that nasa will face with in dealing with the administration in the congress and that

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administration in the congress and that is do we need to start to build a replacement for this one because we only had four uh and now we're down to three and that severely restricts your flexibility in operating the international space station rick hawk and alan bean are two gentlemen of council and uh very experienced they are we're going to come back to this conversation i have some questions about what may be the next shuttle mission and how they'll approach that we want to go to nbc news correspondent jim cubbins at cummins where in nagadoshi's texas i understand some people have been taken to the hospital in connection with this jim that's right brian one of the radio stations here in nagadochis is now reporting that 21 people have gone to the emergency room of the local hospital here for either injuries from debris or exposure to what they fear might be hazardous materials from debris every five minutes on the radio from dallas all the way to louisiana the people are being warned that if you see something that looks like debris please stay away from it and call the local authorities the debris field itself was measuring at one point 140 miles long the one report from here nagadosha says the debris field covered something like 500 square miles in this area of east texas hundreds of reports of debris raining down on nagados a relative of mine even told me that in her neighborhood debris was falling in her backyard and in her neighbor's backyards here in nagadosha which is in east texas close to the louisiana border i heard the concussion the explosion or not the explosion but what sounded like a sonic boom this morning in my home in dallas my wife and i heard it while we were reading the newspaper and we looked outside to see if something had gone wrong in our neighborhood nothing peaceful 19 minutes later i heard the first reports on the nbc of course today show that they had lost contact with the shuttle columbia and i started just to drive in this direction this seems to be an area where most of the debris has fallen and they are checking out various reports of the kinds of debris

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reports of the kinds of debris one piece the size of a car door landed at the airport here in nagadosas another piece measuring three by three feet was sitting along the roadside as i drove in here on highway 21 the police had it surrounded they had kept people away from it it looked like a charred piece of metal so that's the situation here lots of people are concerned lots of reports of debris some of them are accurate some of them not but of course they're answering all those calls and again urging people to stay away from it just on the chance that it might be contaminated with something that came from the space shuttle uh you know some sort of fuel or some sort of chemical that is in the the equipment on the space shuttle and as you might expect there's lots of uh activity in this part of the country yeah jim the the fuel they use is highly toxic we're told in addition to the fact that it is now a piece of evidence in an investigation jim while you spoke we were watching videotape and one of the shots was of a a rather large house it looked like it had a house fire are we led to believe that a piece of debris hit it and started a blaze well there was a report this morning brian in plano texas which is a suburb just north of dallas of a fire on the roof of an apartment building and they were investigating that to see if in fact that had been caused by burning debris i don't know since i was driving in this direction what uh what they have eventually found out i'm out of radio rage there that may be what you're seeing okay uh as we're just sort of picking up pictures as we go along here but uh i assume you've seen some pictures of the debris okay yeah we're looking at it and i don't want to run unreferenced videotape so we'll we'll look into just what this is we're looking at and see if it is in fact related jim cummins with the news out of nagadocious texas the people responding to the official warnings about going near this stuff have indeed gone to a hospital emergency room uh all of this of course surrounding such great tragedy today the loss of seven lives we have some videotape we found

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lives we have some videotape we found of what this crew was like personality wise this the following was taken while they were training for this mission that ended in disaster today happy to be here finally it was a pleasure to go the long way two and a half years because of the great team great crew great trainers great fight directors great engineers the route to the target is more important than the target we are gonna go for the target but we enjoy the route as well [Music] the whole team working together which uh i think is probably one of the most fun parts of the whole deal so uh thanks a bunch and they'll be happy to know that uh salt is still in science mode we hope you guys had a restful sleep we're looking forward to working with you today no need to respond just want you to know that we are taking in cabin video hi laura hi dave good morning just out of the screen to the right corner and now coming into view is the commander rick husband in the back corner and the white shirt is mission specialist cop nachala she's working with a softball experiment creating some flame balls in space floating in the center of your screen is israeli payload specialist elon ramon no i'm not worried because um i mean he's not worried so why should i be worried accident on re-entry that last shot the father of elon

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that last shot the father of elon ramon the military hero in israel one of the seven lost today it is all so sad it would be easier incrementally perhaps if they weren't the very best america and israel had to offer they have given their lives for the space program they loved so deeply you saw the uh broad broad smile there of uh captain dave brown the former aerialist the 46 year old flight surgeon turned uh fighter pilot there on board the shuttle shown at a much happier time there they were preparing for their mission and some of them those scenes from in space before what we learned happened today we've been talking a lot about debris as we try to confirm the picture we put on the air for you of the house that had apparently gone up in flames whether that was directly caused by this or not local weather officials this is the reuters news agency out of dallas estimate that lighter material in the debris cloud could indeed fall and be kind of scattered and deposited around the nation in several locations and could because it landed on the jet stream and was carried along could go on for another 10 hours and i assume by lighter material we are talking about any paper any insulation things of that nature so uh just an extraordinary trail uh a gruesome trail of evidence because what we're talking about here after all is so much more than the loss of a spacecraft and a loss of 25 percent of america's orbiting ability but the loss of seven uh dynamic lives today we are waiting we have just entered the three o'clock hour here in the east uh perhaps we can show you what nasa is showing us we are awaiting a news conference by nasa this will be the technical portion uh and a lot of this uh will no doubt be

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uh and a lot of this uh will no doubt be terms that will go uh flying over the heads of those of us who are lay people in the business of space travel but this should begin to shed some light there it is we're going to be hearing from excuse me the shuttle program manager here and the head of flight support uh in just a few minutes whenever they take that slide down that is our cue to begin bringing you the uh telecast from nasa again these are very very sad people they work as a team very closely with those they send up in space it is their mission in life and this was the mission they were so happy uh to be able to greet at the end of the runway today when it came to its uh conclusion it did not uh rick hauck is still with us a former uh shuttle pilot and rick i'm curious about the following dynamic there will be a next shuttle pilot in this series of flights how nervous were you how much was it on your mind i'm sure the media reminded you at every turn right there's no question that right after the challenger accident the unthinkable happened of course and and so as my previous two missions i even though i was scared nasa had never lost people during a space mission before and but on my flight that was not the case and i have to admit to being my heart was in my throat when we launched but i also was able to tell my family that nasa had done everything they possibly could to make that flight as safe as they could and that's not a guarantee that you're going to come home but believe me the focus of everyone hundreds of thousands of people involved in this program will be on making this right and you have that comfort as you're strapped into launch isn't it the same dynamic following a major air disaster in this country people say it has never been safer than it is right now because it's under so much scrutiny i believe that absolutely now explain

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i believe that absolutely now explain given your meteorological knowledge uh we're talking about an incident that happened at an altitude of approx what 50 38 miles above the earth at what level is the jet stream and and and speed and duration how far is it likely to carry bits of say insulation or paper well the jet stream is can dip as low as oh twenty about thousand feet but generally it's up in the thirty five thousand to uh eighty thousand feet and uh people are familiar to seeing the jet stream on the weather forecast with that snake right that winds itself across the country but that the jet stream typically moves at 120 miles an hour so if you think of some light objects certainly heavy objects will fall through the jet stream and not be terribly affected by that but things that are light that would otherwise be blown by wind they can be captured in the jet stream and carried very long distances and how does that make the job here more difficult it's all evidence it's all part of this mission my guess is that the important parts are the heavier parts that the light parts are less likely to be involved with the accident but even the heavy parts are spread over a large area so in itself i don't think that will complicate the investigation more but i would not be surprised if people far afield from texas are finding remnants of the of the space shuttle columbia again to our viewers we keep seeing this picture of a burned out home we're working on getting the facts as to just what we're looking at and if that is the home that corresponds to a report of a fire on the roof of an apartment in texas that might have been connected with falling debris a bit of housekeeping coming up on 305 here eastern we've now been told the nasa news conference start time will slide another 10 minutes

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start time will slide another 10 minutes to about 3 15 p.m eastern time i'm also joined throughout by our chief science correspondent robert pizzell with us here in new york uh bob how will in your reckoning this the the investigation this time perhaps in duration uh differ from challenger do they know more these days in real time than they did then no not really and one it's very important brian to point out that the investigation into challenger became a political investigation almost as much as an investigation into the technical aspects of the failure because the technical aspects were discovered very early on it was the o-ring design but then it became that nasa had been cutting corners with safety that there had been pressure to launch now nasa of course afterwards promised not to do that but i think that we're going to have to find out all the circumstances that surround this for the first thing to find out is what was the cause of this and how to fix it the next thing is to find out is why that happened and the why could be an enormously difficult and complex question involving personalities and politics so it's very hard to know in these first few hours after this tragedy where the investigation is going to go there was a lot of acrimony in 1986 that nasa was hiding the details of its engineering reports from people who should know you know and even when the commission was set up to study the challenger accident it was very difficult to find people who weren't connected to nasa in some way to serve on it because nasa is an organization that tries to protect itself like many bureaucratic organizations at time and it's very hard to know uh you know exactly what was the cause we see that explosion right there of challenger and we've all seen those pictures a million times but the cause of that explosion uh went far deeper into the organization that was running the space program so that's not that's not an accusation about what happened today we have no idea about what happened today uh we're just at the beginning i think though of a very long road into finding

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though of a very long road into finding out and uh bob we're now learning that they believe they found a door from the shuttle on the ground uh and there's at least one blackened field of grass officials can see in the state of texas this is going to be a herculean effort they're using national guard volunteers forest service people to find this we're talking about hundreds of square miles oh you were talking about hundreds of square miles and almost certainly they're going to try to rebuild the shuttle uh in the same way that if we recall when two and 800 went down into the ocean they managed to get the parts off the ocean these will be gathered over this long period and put together because each piece does have including that tile on the ground there that we see there each piece does have a potential clue as to what went wrong to cause this tragedy so everything is going to have to be looked at in great detail and everything is going to have to be in the context about what was the the pre-flight certification or what were the data that were coming down from the spacecraft at the time of landing what went on on board the spacecraft uh that as much as could be reconstructed all of this will have to be looked at in great detail and i think it's going to be the nasa administrator has already announced that he's going to set up a board outside of nasa as whether whether as well as an internal board but i think a lot of people on capitol hill and our and elsewhere are going to want to say well we want to make sure that that is truly an independent board to make sure that what happened here uh whether it was preventable and whether to make sure that it won't happen again bob bazel with us from new york we are joined now by telephone by sheriff thomas kerrs in nagadocious texas sheriff what can you tell us about pieces of debris and folks who have stopped by the emergency room today our county encompasses just under a thousand square miles and we have literally received hundreds of reports of debris that has fallen from the sky throughout our county it's also my understanding that some surrounding counties that border us have debris as

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counties that border us have debris as well now can you confirm we've been looking at videotape of pieces of debris from the air on the ground also a picture of what appears to be a fairly modern apartment house with the roof missing due to fire is that connected with this is that in your area no i don't believe the site that you're referring to with the the fire is anywhere near my area literally the debris field is probably going to encompass uh hundreds maybe even several thousand square miles i don't know but we do have numerous debris sites literally hundreds within our county so far we have not received any report of any casualties from falling debris within our county we do have several sites that have sustained some property damage with the folks in the emergency room should we assume that they are taking warnings from folks like us and going to get checked or do you have any reason to believe it's because of actual inhalation or injury from this toxic stuff that's on these parts the reports from the emergency rooms again i can't really confirm other than maybe people are taking a precautionary measure to be checked certainly we are encouraging through our local media here as well as the national effort that anyone that encounters a piece of debris not come in contact with it we will send someone out if they'll notify us where it is check it for any type of radioactive material or toxicity and you know please don't pick it up or try to move it now sheriff did you think this was going to be an average saturday there in your town well certainly it started out that way this morning but that certainly changed very quickly as things in law enforcement tend to do sheriff thank you very much for being with us sheriff thomas kurz from nagadosius texas a busy place for

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nagadosius texas a busy place for all the wrong reasons today a very busy place this morning until we knew what we had here was the department of defense they're being used in other ways however nbc news pentagon correspondent is jim miklaszewski and mick we're hearing that air national guard national guard on foot forest service everybody's being marshaled that can get there to look for these parts uh that's right brian for several hours it appeared that the u.s military was somewhat at a loss as to exactly how they could contribute or or what their role would be in any kind of recovery effort but uh since then they've uh responded and quite robustly uh there are some six air force reserve f-16s out of the uh reserve uh naval air station in fort worth uh the army is providing black hawk and kiowa warrior helicopters out of fort hood uh the texas air national guard is supplying uh c-130s uh to continue the search u.s navy helicopters are being scrambled out of new orleans uh and even the coast guard is getting involved they're dispatching a 110-foot cutter to patrol the gulf of mexico so that gives you some kind of idea on how vast the u.s military and nasa officials think this debris field may be mick we were saying in the newsroom earlier before our coverage started people so many people are conspiratorial thinkers you and i both know that there are always going to be theories about what happened today even though we can go blue in the face describing how this didn't happen go through again exactly why we are getting such a strong wave off on any possibility that this could have been any kind of misbehavior well given where the columbia was at the time of the explosion it was at about two hundred thousand feet uh and we hear that it it was flying well over uh ten thousand miles per hour just to give you a comparison uh the uh nation's national missile

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uh the uh nation's national missile defense system that they're still trying to develop they've been working on this for years and still haven't perfected the ability to shoot down an icm icbm missile just to give you a comparison an icbm warhead would be traveling at about 1800 miles just a fraction of the speed at which the columbia shuttle was traveling and the u.s military military still hasn't perfected the ability to shoot down that so there is nothing in any military a u.s military or otherwise in their inventory that would be able to shoot down uh the colombia at that height also there was some speculation that perhaps there was some sabotage that somebody was able to slip a bomb on board the columbia shuttle before it took off but nasa officials say that uh the security around this flight was especially tight uh primarily because of the presence of the israeli air force colonel who was on that flight but also ever since 9 11 nasa at cape canaveral has had extraordinary security measures in place because after all thousands and thousands of people gather in that region to watch these shuttles take off and there was some deep concern that at some point a terrorist might try in a symbolic move try to shoot down uh or somehow impede the takeoff of one of those shuttle missions so uh well you can never rule anything out uh the likelihood uh appears to be about as absolute zero as you can get of course we're also looking at a a at what we consider just a science and uh and a slam dunk these days we've gotten complacent again and blase about our coverage of these missions nothing has ever gone wrong on landing prior to this and we wake up this morning to this kind of news and it has everybody mick thinking about uh january 28th of 86. uh that's right i mean i i was here in the building uh covering

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i was here in the building uh covering the pentagon at that time uh and i can tell you that uh uh as as soon as it was determined that uh it was a catastrophic event uh we headed off to uh some of the offices here who would be in charge of search and rescue and and and the generals there were already uh hunched over the maps and and plotting uh where their search and rescue assets helicopters planes were already in place for any possible recovery of course we know tragically now that that wasn't possible that the crew of the challenger was killed uh almost instantly but uh in this case there would have been no search and rescue assets planes or helicopters in the north texas region those search and rescue helicopters and assets are are usually situated either around the launch site at cape canaveral or in this case the recovery site the landing zone uh or at alternate uh landing sites uh for example the uh there are some sites in europe that if the uh shuttle uh takeoff doesn't go as planned their bailout sites ex they're actually bailout sites in case something goes wrong and and the u.s military would have search and rescue assets around those areas but in this case they had nothing in the air uh and as as we find out it actually took them several hours to scramble the necessary aircraft to get up in the air and this is an effort that will continue uh with their various infrared and night vision devices it will continue for 24 hours a day as probably as long as it will take we also just know we're going to get a whole lot of images from this we already have reports that military satellites show a flash of light we're going to get so many different views from the ground as good citizens with video cameras hand over their tape hopefully first to nasa and then perhaps a copy to the television networks because it'll be it will be interesting though continues to be crushingly sad to see what happened across the sky

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what happened across the sky and these infrared satellites are apparently pretty remarkable in what they can do uh according to xbox first of all uh they would see the explosion that would be readily visible to this satellite but they could also track it because the columbia was obvious or the uh the columbia s was obviously on fire they could track its path perhaps even more accurately than than some of the other satellites that nasa may be using but it could also help determine exactly what it is that caused the explosion itself because apparently according to experts these infrared satellites are so sensitive they can tell you exactly what kind of fire or what exactly what kind of explosion this is whether it's an explosive device some kind of fuel so this may be very helpful in helping nasa determine exactly what caused this accident jim mclachevski at the pentagon thanks there there is this from tallahassee florida on the associated press former astronaut who flew on the space shuttle columbia says problems during landings are unusual winston scott says he never would have guessed that something would go wrong during this phase of flight but he adds it shows space flight is a volatile business a point we've been making here and something could go wrong at any time winston scott flew on columbia in 1997 also flew on the shuttle endeavour we are making efforts to have him join us on the air robert bazelle is the chief science correspondent for nbc news he's been with us since the start of this and bob we were talking about this debris field we have been talking about the investigation first of all nasa has to go about the very tricky business and they'll have help here from the president of the united states on down in taking care of families who were so excited to be greeting their loved ones about 16 minutes later of course the the grief process here is terrible and that we can only imagine what it would be like uh if our loved ones uh were involved in

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uh if our loved ones uh were involved in this i think that a lot of these people as rick hock who was a test pilot himself pointed out before are have been people who have been in the military and they are many of them test pilots who are used to taking extraordinarily extraordinary chances and even the people who are civilians who are the payload specialists who ride in the shuttle often they're scientists in this case some were physicians these are people who really are very gutsy and they know that they're taking a risk so and i think that their families know that they're taking a risk so in the sense that it it's a terrible shock and a tragedy for all of us it's it is nobody ever thought even if we stopped covering these things for a few minutes or a few days or months that this was something that anybody would would take lightly or something that was without risk it is as many of our guests have pointed out today something that involved in a sense of adventure and i think that many americans would gladly accept the risk even knowing what we know today for the chance to go up into space and that's one of the reasons why i think we keep us a space program going is it because it's not just the people who live the experience and take the risks it's a it's a sense of adventure for all of us because there are serious political questions about why we do have a space program the space station which the shuttle services and as we've been hearing all day today there's three people up there now whose fate is going to be decided in the next few weeks and months the space program it's not is something that we keep for a national pride but it doesn't accomplish much scientifically the space station was just cut back for budgetary reasons nasa has been under terrible budgetary pressure in fact the current director of nasa was appointed by president bush from the office of management and budget somebody who is concerned with dollars and cents i think we're going to be hearing a lot about the kind of budgetary pressures nasa has been under and whether that played a role at all in today's incident we don't know whether it did but that is a critical part of the investigation that's going to unfold don't forget it was a big part of the investigation that unfolded after the challenger exploded in 1986. and bob to

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challenger exploded in 1986. and bob to go back to something you just touched on you and i have both been around these men and women and you know almost to a person they told loved ones in effect to paraphrase don't grieve for me if anything happens please know that i am i will be at my happiest and i am doing what i have wanted to do for so long well absolutely and i i spent an enormous amount of time in my career around shuttle astronauts during the first phases of the space program when uh when columbia was first launched and then when the space program returned with rick hauck as the commander who's been on the show with us and i never met a group of people who i admired more i remember there was one woman who's an astronaut and she gave birth to a baby and she was back to work within hours because she didn't want to miss any of her training and that's the kind of spirit that you find in both the women and the men who are astronauts these are people who are enormously dedicated enormously capable and hugely intelligent of the even even now that the astronaut core is much bigger than it was in the early days is the competition is terrific to get into the program there's no shortage of applicants a lot of people want to do this and it and there nasa is able to select only the very finest and and only the most dedicated to be able to do it you're so right to stress they're smarts and it's so sad that we have to have an occasion like this to speak to some of the great americans of all time buzz aldrin allen bean these are people that uh a lot of kids look a lot like you and me grew up uh really idolizing in the in the original mercury seven and then on through gemini and apollo and here we are talking to them with such great and vast experience for all the wrong reasons absolutely but again these are test pilots a lot of them and it's the life they've chosen aren't test pilots the culture of test pilots permeates nasa as it always has the original astronauts were all test pilots the commanders and pilots today remain people who are test pilots people who can land on aircraft carriers at night who

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land on aircraft carriers at night who are accustomed to taking all kinds of extraordinary risks uh that doesn't in any way justify anything that's happened today that these people knew that they were getting into a dangerous situation and it's a program that's full of a lot of adventure and challenges but we can be absolutely certain that whatever happened today did not happen because of any lack of competency on the basis of those seven people who were on board because you could not have people who are better trained more dedicated and more able to do their jobs if you have ever seen or been privileged to see as i have the training of shuttle astronauts uh the the endless repetition of every every job that they have so that everything that they do is second nature and that they're able to handle every possible emergency short of a total catastrophe you can understand that these these are people who do have truly have the cliche as the right stuff but they really do have it and they're proud of it and it's always an honor to be around them and it's always a tragic loss when we lose people like we've lost today bob bizzell thanks and now that we've thoroughly embarrassed a very modest man i want to go back to rick hauck in washington specifically with the question how much are you fueled by patriotism you are all lovers of country that's the other thing you have in common well that's true brian uh i i think that's certainly part of the fabric that we weave around ourselves because it gives us something to reflect back on after we've participated in one of these great adventures it gives us some sense of pride i guess that we've been able and privileged to participate in things that are so important to the country so so it's the adventure it's the the pride of nationhood and and the desire to extend the reach uh rick thank you for that uh down at uh the cape in florida our own carrie sanders over his shoulder and that familiar scene is the launch pad of uh the so many shuttle missions and scattered about the

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missions and scattered about the countryside there are old uh rusted uh cement launch pads on which so much american history launched uh carrie who have you been able to speak to down there so far today well i've had an opportunity to speak to kurt brown who is a retired shuttle commander in fact he commanded three shuttle missions and then he piloted three missions and he's been watching this very closely today and i've just sort of gotten a handle from him about what type of questions he would want answered right now now as you know the shuttle was actually beginning to make its re-entry and it may have been at around mach 18. it was about 10 minutes into that re-entry where the temperatures were up at some points on the actual shuttle shell there up to temperatures that exceed the temperature on the surface of the sun that's how hot it is his question is what was the loss of data that data he says is going to be the very first question the link that was lost there by the folks on the ground who are trying to determine what caused this problem now there are several things that are happening at this process when the shuttle is coming in it is running two systems on board one is these are dynamic systems as they call them one is the hydraulic pumps and those are being powered by the uh the auxiliary power units on board the shuttle those hydraulic systems are used um to actually control for instance the uh the thrusters as they are to bring them back and forth and there is something called a re reaction control system which also controls the thrusters uh those are used as they're re-entering because the air is so thin there they're using these thrusters to actually control the attitude and the yaw of the shuttle as it's coming in and kirk brown's question is what happened the data loss there might indicate when they lost that data stream that something went wrong either with the auxiliary power unit that was running at the time which is controlling those uh

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the time which is controlling those uh hydraulic pumps and those hydraulic pumps again are controlling the flight control systems or did they lose something in those thrusters and that may actually help answer what is going to be a question that so many people are going to be scratching their heads for a long time on is what went wrong here kurt brown says that of course much of the debris as it comes down will burn up as it comes on re-entry into the into the atmosphere but some of the larger pieces the larger masses the the engines for instance those will make it to the ground but they will be so severely scorched by the temperature of the atmosphere because you understand as it's coming in there's a tremendous amount of friction it is that friction that creates this tremendous heat so i believe we're going to hear from nasa here in a short while where they're getting ready to talk to us brian um but those are at least some of the questions that those who fly these systems are asking themselves right now trying to i guess what many people are doing trying to find out what went wrong and carrie we've already heard evidence of some of the larger pieces uh having survived associated press reporting one door has made it we're looking at animation now and this is a good reminder that on the early stages of approach of course in zero g it doesn't really matter but the astronauts are upside down initially uh or inverted and then they straighten out to use the bottom of the spacecraft which is coated with those ceramic tiles each one individually designed and placed to absorb the heat and the heat kerry pointed out can exceed the surface of the sun temperature all because of friction it's what happens when a spacecraft re-emerges uh into the earth's atmosphere if this looks like a grainy old film i guess relatively so it is it is from the test series of flights that early shuttle mockups took in the end as shuttle pilot uh you become

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become just what you were in civilian military life you become a pilot uh you're on the stick uh you land it with the help of uh elaborate uh computer programs and if all goes well it comes safely to a halt two things to show you number one what nasa is showing us right now the slide they put up prior to the briefing a few moments ago it said 3 20 it switched to the 325 then 3 30 and now they're putting up the word momentarily we'll take them at their word we'll go to this uh instantly when they start talking uh we also uh have a model of this and the the attitude of the shuttle as it comes down as it's now familiar to you is approximately like this and it's all heat on the nose of the spacecraft uh so the ceramic tiles which may or may not end up being a factor in all of this today are of course and have always been a crucial part of this spacecraft we still have rick hauck with us from washington and rick with the understanding that i may need to interrupt you uh at any time how much uh stick flying uh is it and is there any option for the pilot are there landing programs or can you take it uh most flights the commander will take control as the machine gets subsonic that means below the speed of sound and that's the last two minutes of the flight at that point the shuttle is aerodynamically stable and the commander has to maneuver it to fly around as it descends very rapidly 11 000 feet per minute and pointed down and touch on the on the runway touchdown about 200 knots now the commander can take over before then at higher altitudes but the only reason he would do that is if he's still got a flyable machine but for some reason the computers are pointing him in the wrong direction in other words flying in the wrong direction then he might take over but quite frankly the computer can do it

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but quite frankly the computer can do it much more efficiently than the commander rick how does this fly in relation to i don't know a boeing triple seven i've flown the 747 and i'd say actually the flight controls feels very similar it's very benign it feels like a heavy aircraft but it responds very nicely i have to interrupt we're going to nasa right now here's the press conference produce the panel for this afternoon's briefing on the dais here to my left is ron dittemore he's the space shuttle program manager and to his uh left is chief flight director milt heflin i'll have brief remarks from both gentlemen and then we'll throw it open for questions so with that i'll turn it over ron i'm sure you understand how difficult how difficult time this is for us right now we're devastated because of the events that unfolded this morning there's a certain amount of shock in our system because we have suffered the loss of seven family members and we're learning to deal with that there's certainly a somber mood in our teams as we continue to try to understand the events that occurred but our thoughts and our prayers go out to the families of rick and willie david and kelpana michael laurel and elon true heroes and we are suffering for the events that

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and we are suffering for the events that have happened this morning as difficult as this is for us to do we wanted to meet with you and be as fair and open with you given the facts as we understand them today we will certainly be learning more as we go through the coming hours days and weeks we'll tell you as much as we know we'll be as honest as we can with you and certainly we'll try to fill in the blanks over the coming days and weeks as difficult a situation as this is we are moving forward we have established a number of different teams we have contingency plans for the just these types of events though we never expect to use them we had we have implemented these contingency plans we are preserving data we are beginning thorough and complete investigations we are mobilizing our forces our engineers our technicians our safety and quality our best experts to try and understand what went wrong i do want to take the time right now and express my appreciation for the tremendous number of agencies that are coming to our aid from across the country both federal state and local that are assisting us in our recovery operations i also want to express my appreciation to the public for assisting in the recovery for

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for assisting in the recovery for notifying us of different debris where where it is located that we might get to it as quickly as possible it's also appropriate that we tell the public to be careful with the debris what we fly in space is operated in many cases with toxic propellants and some of the debris may be contaminated so we need to be careful and we don't wish any harm to come upon anybody that would be honestly seeking to help at this hour we have not positively identified any items that we have recovered we are staging in an attempt to ensure that all recovered items are managed appropriately but at this stage i haven't received any real information on debris or status of crew remains i can go back to the start of the day filled with excitement and anticipation today was a great day to land in the florida area we had all positive indications that it was going to be like every other day where we have landed in florida good weather anxious team to welcome a fantastic crew back families that were excited about welcome welcoming their loved ones back and no indications at all of any impending threats to the vehicle the first indications of a potential problem

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indications of a potential problem occurred minutes before 8 o'clock central standard time the first indications were of the loss of sensors temperature sensors in the hydraulic systems on the left wing both the left inboard and left outboard elevon temperature sensors they were followed seconds and minutes later by several other problems including loss of tire pressure indications on the left main gear and then indications of excessive structural heating and mr heflin will talk in a minute about some further details i have to caution you that we cannot yet say what caused the loss of colombia is still very early in our investigation and it's going to take us some time to work through the evidence the analysis and clearly understand what the cause was but what we are doing is we are impounding hardware so that we can preserve evidence we have stopped processing at the kennedy space center we are preserving hardware around the country in our different facilities we are impounding data here that represented the last data that we received from the crew and we'll we will be pouring over that data 24 hours a day for the foreseeable future again i express our sadness to the families for their loss and we'll do our best to answer your questions thanks ron milton

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first of all just some personal observations and comments to begin with and then i'll review some from data with you this is a this is a bad day i'm glad that i work in and live in a country where we have when we have a bad day we go fix it ron said we'll fix it i can talk to you some about what went on in the flight control room with the entry flight control team under the guidance of flight director leroy kane ron said it was a good day to land in fact many of us as we came in today we're marveling at the fact that leroy kane did the ascent as well and and probably the most difficult things that we deal with during launch attempts and entries is dealing with the weather as you all are accustomed to and we marveled and and felt good about the fact that you know launch we didn't have any weather issues to work in fact any weather issues anywhere in the world that we were concerned about and today it was a very minor thing to talk about some fog i believe but nothing really hard to work so as ron mentioned this was a fantastic mission and just seemed to be coming to the right conclusion um just some specifics for you

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um just some specifics for you and bear with me this is relatively recent fresh information and and as you can imagine the next several hours and days this will be will get closer to to many details i'm sure around 7 53 am central time as ron mentioned we saw indication of off scale low measure temperature measurements on the left the inboard and outboard the hydraulic systems and this was loss of the temperature measurement it wasn't wasn't any indication that it was high or low we just lost it about three minutes later around 7 56 a.m in the left main gear tire wheel well brake line and tire temperatures there we saw an increase now i i need to tell you that during this time the vehicle was performing fine we had no indications of any of any problem around 7 58 a.m central time a couple minutes later we have what we call bond line temperatures these are temperature sensors that are embedded in the structure of the vehicle we have them we have them all over the orbiter three of these temperatures on the again the left side of the vehicle left wing area the off scale low reading again this was not high indication indication but they were we lost them lost their measurements i don't have the seconds here clearly seconds will play a part in our analysis but i'm giving this to you at the nearest man at around 7 59 then central time left inboard and outboard tower

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left inboard and outboard tower temperatures and pressures off scale low about eight eight measurements total during that time one of these one of these measurements sent on board by the computers gave the crew a message indication that they could look at on their displays and they they we think they were acknowledging that measurement that they saw again the vehicle was flying with no problems at that time and when things like this happen when a crew gets an alert it's uh you acknowledge it they recognize they've seen it and then we go we do what we might need to do with it and as far as i know that was the last transmission from the crew i can't i've asked a couple of people i haven't heard the tapes myself i i'm not sure what they what they said at the time but they were acknowledging we believe that that indication that they'd seen then we lost all vehicle data um it looks like it was around and i apologize i've got it looks like my little cheat sheet here doesn't have the last central time on it and i'm not going to try to convert it to you at this point but around 8 o'clock central standard time altitude was 207 135 feet and traveling at a mock of about 18.3 and the flight control team during this

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and the flight control team during this time again we lost the data and that's when we be clearly begin to know that we had a bad day that's all i've got okay thanks as you can imagine we have a lot of centers around the agency that are involved today so we're going to try to limit the questions to one and try to get through as many as we can i need you guys to do me a favor and uh when you raise your hand wait for a microphone and please give your name and affiliation first and we're going to start here in houston and then go around to the other nasa centers so let me see a show of hands and we'll try to get somebody to let's start just start right here on along the front row and work this way hi melissa jacobs with the fox news network where will the debris be taken we haven't yet identified a central location part of the activities that that are ongoing even at this very moment is to stage our teams into a location in northeast texas we are still identifying the locations for our teams to to meet and gather and start this process of recovering the debris and part of their first activities is to identify the staging area the collection point of all the debris so that's some work that's going to be done later on today the teams are are let's see they're not quite in the air they're staging right now at the different airports and they're converging on northeast texas uh and so that's some work that's still uh in front of us okay sid christensen san antonio express news um at this point uh what is the status of the shuttle program and particularly

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of the shuttle program and particularly the upcoming missions are you gonna have if you have decided to put all of those missions uh on hold and do you have any kind of idea how long the program will be out of service of course this thing happened just this morning and we we've put in motion uh some stop work type of activities as i mentioned earlier we've we've minimized our processing it at the kennedy space center so that we don't do anything that might disturb some evidence we are also slowing down our manufacturing processes and in the michoud facility in louisiana where we manufacture the external tank we're doing that in different areas around the country for different pieces of hardware what this slow down means as far as the launch schedule is yet to be determined we also will be having and an investigative board outside the agency as mentioned earlier by mr o'keefe that will come in and and help resolve the situation to everybody's satisfaction so that we clearly understand what was the root cause of the problem and once we once we get on a path of understanding the root cause then we'll be better able to say whether it affects future flights if we can put put it off to the side and and get it narrowed down and say okay we understand the root cause here's the things we do about it or need to do about it and then accomplish that corrective action on on the other vehicle flows then we'll be able to pick up our flight progress again how long that's going to take it's too early for me to tell but i do believe that we'll continue to meet with you and keep you informed of just how this is progressing um i've talked to

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um i've talked to mr bill gerstenmaier who is the program manager for the international space station program they have scheduled a they had a previously scheduled progress launch tomorrow and that progress launch will proceed as scheduled they have reviewed the contents that are going to be shipped to the space station and those contents are appropriate given the fact that we may not be there for a while there they have enough consumables supplies for the crew to go through the latter part of june without having a shuttle visit so there's some time for us to work through this and get back on our schedule and we're just going to have to work through that in the coming days and weeks and we'll keep you informed on on just the impact to the manifest but right now there is a certainly there is a hold on future flights until we get ourselves established and understand um the root cause to this disaster okay my name is jenny blankenship i'm a reporter with the cbs station in austin and um i was wondering if if you could explain to to people who are not from this area really how tight-knit of a community this is not just here on the nasa jsc campus but all around here how much of an integral part of the community this is to you all well it's it's more than a job this

this is a passion for us human space flight is a passion it's an emotional event and when we work together we work together as family members um and and we treat each other much that way and whether it's the loss of a crew member or a loss of a member of our

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member or a loss of a member of our ground team or processing teams it's a sad loss for us and so we are very close community we understand the risks that are involved in human space flight and we know that these risks are manageable but we also know that they're serious and can have deadly consequences and so we are bound together with the threat of disaster all the time and we know we must count on each other to do what's right we must count on the ground teams process correctly we must count on our suppliers to follow the procedures just like we have identified to them and we count on the flight crew members to fly the vehicles within the specifications so we all rely on each other to make each space flight successful so we have a dependency and it's professional dependency and it's an emotional dependency and so when we have an event like today where we lose seven family members it is devastating to us and it's more than just us in this location there there is an emotional attachment to human space flight it it piques our interest it captures our imagination i received a couple of phone calls this morning immediately following immediately following the when it became apparent that colombia was no longer going to land one phone call was from my brother in phoenix arizona not associated with the space business i haven't talked to him yet i just received a message certainly extending his thoughts and prayers i received another phone call from my

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i received another phone call from my son in provo utah with the same emotional outpouring of sadness and i'm sure this is true across the country we're seeing that from the public we're seeing that as people that really care about the space program and understand what it means to this nation reflect their thoughts their prayers their caring attitude towards and and we want them to know we appreciate it very much as we struggle with our emotions in this difficult time we appreciate the thoughts the prayers the care and the support milt you might have some thoughts also well yeah it it is a the community out here is is extremely close-knit um i've been through three of these um and in each time uh you see a coming together of of the community here our landscape has changed and the space flight business today is not going to be it's going to be much different than it was yesterday it was different after the apollo 1 it was different for challenger and it was different because this community and the passion that draws right the passion is here and and as ron was talking i was thinking about your question and i thought you know sometimes it's a shame uh that it takes things like this for this country to pull together in in care and and it shouldn't damn we're good this country is great it shouldn't take these kind of things to cause a coming together okay uh eric berger with the houston chronicle milt you mentioned about eight

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chronicle milt you mentioned about eight sensors and one of those which triggered some kind of notification inside the inside the shuttle um can you tell us which sensor that was and whether it was an abnormal reading on whatever sensor it was or whether it was just that the sensor was no longer functioning there were in the left inboard and outboard these are tight these are tire temperatures on the left-hand side okay temps and pressures and ron help me out here if i if i if i get that mixed up um and they were they all went they all went what we call off scale low in other words there's a bottom number zero or maybe not zero not necessarily zero but there's a bottom number of the measurement they all just went off scale low indicating um loss of the measurement itself you know and and i cannot tell you specifically which one of the eight but we'll find that out but i don't have that right now you know an easy way to think about that is the measurement was no longer reading it was not giving an indication it's as if someone just cut the wire right over here chris heinbaugh with wfa tv in dallas uh you indicated that at 7 53 was the first uh you first lost some sensor uh information and you indicated towards the end there was an acknowledgement from the crew during the rest of that time period was there any dialogue any communication with the crew during that period and was if there was was there any indication from them that there was a problem that they could see on board at yes at 7 53 a.m we did have another set of four measurements in the hydraulic system on the left-hand side that went off-scale low now

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side that went off-scale low now this was reported by the flight controller responsible for the mechanical and hydraulic systems in the orbit reported to the flight director when this happens then it's followed up by if there's any action to take if there's anything that we see that needs to be done that flight controller will tell the flight director and a crew and call might go to the crew these were measurements that did not have many we have many measurements on board not all of them are enunciated to the crew they don't need to be uh and we see a lot more information on the ground than they do so they did not did not see this so they had no indication we saw nothing else to indicate any difficulty at all because had we seen anything else we would have taken some action that's you know we work we worked very hard we trained very hard to react in a very short amount of time to situations but we don't if if we don't have anything that we see that we've got to do then we don't we don't spend the time talking about it because we focus on the next event and so forth right here next next time i'm brian sasser kprc tv here in houston we'd heard some reports that during launch there have been some concerns that some debris hit the wing is that true and is that any cause of concern that could have caused today's problems uh it is true that right after launch and i don't remember the time frame as far as the seconds there was a a piece of foam that is used as insulation on the external tank in the area what we call the bipod which is the

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what we call the bipod which is the forward attach between the orbiter and the external tank there is a piece of foam that that was shed and in our review the following day of the launch films we we saw this piece of debris drop off and it looked to us like it impacted the orbiter on the left wing where on the left wing it's very difficult for us to tell somewhere between the mid and outward span was it the leading edge we don't know wasn't underneath the leading edge we really don't know to the best of our ability that's what happened we spent a goodly amount of time reviewing that film and then analyzing uh what that potential impact of debris on the wing might might do and would there be any consequences through analysis and through our ability uh to to call back on our experience with tile it was it was judged that that event did not represent a safety concern and so the technical community got together and across the country looked at it and judged that to be acceptable and so as we as we look at that now in hindsight that impact was on the left wing and certainly we have all the indications that milt talked to you about were on the left wing we can't discount discount that there might be a connection but we have to caution you and ourselves that that we can't rush to judgment on it because there are a lot of things in this business that look like the smoking gun but turn out not even to be close and so we really

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not even to be close and so we really have to do some regression analysis we've got to look at what milt described you described to you and then back up in time through analysis to see if we can piece together the events and whether or not this was a tile problem or whether it was a structural issue or some other event we don't know yet what will help us determine that is is inspecting the debris that will really help us and so we're very anxious to get certain pieces back to look at and that will determine whether or not this particular event whether it was the debris hitting the orbiter or some other event was a cause of this problem or this disaster today okay get that gentleman right back behind him ryan coursgard from kvue tv in austin you talked a little bit about the hardware what goes forward now with the astronaut training does that continue does that stop what happens well there's going to be a a period of mourning in this community there's going to be a period where we're just going to get together and support each other and hug each other and and help us go on uh but we're gonna fix this problem we're gonna get back on the launch pad we're gonna launch shuttles again as soon as we're ready the training is gonna continue the best therapy in this business is to get on with your job the best therapy in the flight control world is to get in that control center and train for the next mission the best therapy in in the flight crew world is to continue with their training stay focused on the job ahead stay focused on what we need to accomplish and that's what we are all going to do there's going to be a subset of us that will be working together to resolve this problem

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together to resolve this problem and we will do that and we will do that quickly efficiently and we'll do it safely and we will not fly again until we have this understood in the meantime life goes on training goes on we'll start manufacturing hardware again as soon as we know that we have preserved evidence so in a few days i suspect we will start pulling things back to what we understand and releasing certain activities to start up again but in the next several days it's going to be a period of quiet of reflection and where we're going to go from here as far as what we need to do to resolve this issue okay greg let's work on the second row start right here on the end rashaanda tate fox 26 news did you have a device on board that is the equivalent of a black box no we don't we do not have a a hardened black box data recorder or voice recorder we do have recorders we do have recorders of both data and voice if they survived the the entry and the impact we will certainly look to see if there's any information there as milk mentioned to you on the timeline he talked to you a little bit about these sensors that just kind of quit working we also know that during this time frame the vehicle was operating perfectly it had gone into a roll reversal which is a standard maneuver where the vehicle banks left or banks right it's a standard maneuver and when it does so it does so to bleed off energy and you do a number of these role reversals so that you land at the right speed right at the kennedy space center it had rolled

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kennedy space center it had rolled itself into a roll reversal and everything from a flight control perspective was perfect no indications of any problems so we have some indications that it wasn't a vehicle loss of control issue uh and so we're getting some hints of where we need to go look whether or not these recorders survive and will get and will be useful to us i'm not really sure that's going to be the case okay anybody on the next person with his hand up there jake dyer for star telegram i have a couple of questions um regarding that whatever it was the foam that apparently fell off the vehicle at takeoff was there any consideration during the flight that perhaps an eva would be necessary that you guys need to go out and take a look secondarily i i'm wondering about you guys talked about loss of sensor readings and sort of unusual center readings could you give us a sense about how unusual that is i mean is that do you is that does that happen with any frequency or is that was that something that was alarming that you'd never seen before um the easy answer on is the sensor reading and yes that happens the fact that you have a sensor that just quits working is not an alarming factor in fact we understand that several sensors can quit working and they're all result of not the sensor quit quitting to work the result of a box an avionics box a signal conditioner or a multiplexer demultiplexer that happens to fail and its signature to you and me is the fact that it looks like someone just cut the wire and we've seen this on occasion and we certainly train for it many many times over so it is not unusual for us when we see it to look at it and immediately start to understand whether it is a single sensor problem or it's an avionics box the team today

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or it's an avionics box the team today looked at it as they were trained to do and could not see any common thread between this sensor and another sensor there's nothing common about it and so that made it more significant as soon as we understood it wasn't a common avionics box and that there were multiple sensors all completely independent and all this happened in a very short period of time we knew that something was not right uh now you asked me something else on the uh on the phone the idea of the spacewalk all the spacewalks we do not have the capability to perform a space walk and do tile repair we do not have the capability as you know when we go out of the spacecraft we operate really within the confines of the payload bay on this particular mission there was no remote manipulator system there was no arm and so all we had trained to do from a spacewalk perspective where those things that might be an emergency or a latch did not work in the payload bay door closing sequence or something like that we can go outside and make sure the payload bay doors are closed we have no capability to go over the side of the vehicle and go underneath the vehicle and look for a an area of distress and repair of tile we we know we have no capability if for some reason we thought we had a tile problem the risk you take when you launch is that you may suffer a tile issue we have no capability to repair it all we can do is before we launch design robustness into the system so that a loss of some tile capability will not result

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of some tile capability will not result in loss of crew or vehicle does that answer your question we have no capability to do that today there is no capability to inspect it we are not able to look on the under side of the vehicle and again our our rationale our retention rationale why we believe we can are continuing our continue to fly safely is that we test our tiles on the ground they're robust they're hard enough to withstand certain levels of impact and then we design our environment so that we don't have these circumstances we don't believe at this point that the impact of that e.t debris on the tile was the cause of our problem we convinced ourselves as as we analyzed it 10 days ago that it was not going to represent a safety issue now we had the events of this morning we're going to go back and see if there is connection is that the smoking gun it is not we don't know enough about it a lot more analysis and evidence needs to come to the table so it's not fair to represent the tile damage as the source it's just something we need to go look at uh yeah graham right there next to you no no right here nick yeah gina treadgold with abc news there are reports from astronomer at caltech that the shuttle was debris was flying off the shuttle as early as a flyover in owens valley in california how does that match up with this timeline and are you aware of those reports it's news in it well i haven't heard that report and sometimes as you go through entry and are in a plasma sometimes you see plasma it looks like debris but it's really not debris it's plasma it's just the fact that you're going really fast through the atmosphere

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if if he saw something over hawaii i recognized we flew a good long while before we got to the texas area and so it's it's doubtful that we had something uh in hawaii that would cause us a thermal concern uh at the time that we believe we lost the vehicle as mild explained it was about mach 18 or 18 times the speed of sound we were at our peak heating we were at 3 000 degrees fahrenheit on the wing leading edge and if we did have a structural problem or a thermal problem you would you would expect to get it at the peak heating not back at hawaii when you weren't suffering any real thermal environment extreme thermal environment the most extreme thermal environment was right at mach 18 and that's where we lost the vehicle go ahead yes uh mr dinmore ann gesselman with newsweek you mentioned in your opening comments that there was indication of excessive structural heating when did that happen in the timeline from 753 and on and secondly at any point between 7 53 and 8 am were the folks in mission control worried let's see you respond about the mission control let me talk about these bond line temps we mentioned that and i might have overstated it when i said excessive heating because as i look at the notes here the bond line temps on the left side of the vehicle were off scale low which means it looked like the rest of the measurements it looked like they had been cut so i probably i probably misspoke on that by saying excessive heating really is that we lost those measurements too the mood in my area where i observe the flight control team was very upbeat and then we started to

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very upbeat and then we started to understand a little bit about these multiple loss of sensors we recognized there was no commonality we lost voice with the crew we lost tracking data we had no tv as we came to find out later there was we saw the tv reports of debris we did not have that at the time and so we were very anxious because we knew we were an area of good communication coverage we were in an area where we should have tracking and we had lost both and as we started adding all these up the we were certainly most anxious look at this gentleman right behind you there you go ron thayer evans from the daily oklahoma in oklahoma city can you confirm reports of debris in other states besides texas namely oklahoma and also offer your thoughts on mike anderson i can't confirm any debris in oklahoma i would doubt any debris in oklahoma because our ground track was basically just north of dallas on a path that went through northeast texas nacogdoches areas from from northwest to southeast that's going to be the ground track that's going to be the the interest of our search mike anderson i suspect you asked me because we are both from the same hometown mike and i we have common backgrounds he attended my rival high school he graduated from cheney high school i graduated much earlier than he did i'm sad to say but from medical lake high school and we were arch rivals and he and i had a good uh communication going about about that

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uh communication going about about that he was a he grew up on an air force base fairchild air force base spokane washington i also grew up on spoke in fairchild air force base in spokane he went to the same grade school i did we had a very common early beginning but i i told him that i i was his pathfinder and uh so we had a good relationship and we talked many times about how he had met his wife in spokane i also met my wife in spokane his parents lived there my parents lived there my wife's parents lived with a lot of commonality i'm going to miss mike i'm going to miss the closeness that we had okay let me reach this person right here sanjay bot cox news service in palm beach post we heard that earlier today that this crew was very passionate about the work they were doing the scientific experiments they were conducting and we heard that they wouldn't that their loss would not be in vain what i'm wondering is the how many of the experiments aboard in terms of the data being collected required that the astronauts and the craft return safely to earth and because there were some new laboratory modules on this craft is there anything to suggest that those could have contributed at all to what we saw well ron i don't have the answer to maybe you do on the number of experiments that we uh that we have to have the return of our i don't have that i'm sure we can get that for you uh i can't imagine space have been on board back in the cargo bay had anything to do with this let me just say something about the science this vehicle on orbit we kind of pinched ourselves

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ourselves over the past 16 days this vehicle performed flawlessly absolutely flawlessly science was was a premium the folks on the ground were just ecstatic with the amount of science that they were reaping and they were looking forward to getting much of that information back on the ground certainly some of it was down linked to the ground prior to entry some of it was will be their legacy others had to come back and be analyzed in which that particular part of the science would be lost but it was an amazing mission and we were ecstatic over the results and looking forward to talking to the crew and telling them what a great job they had done and so it is a painful experience for us to lose our friends and and recognize that things were going so well and turned out so badly valor time magazine could you share with us the last words that came from the crew well a while ago the last transmission that we got was um it had to do i think a while ago i discussed that there was a measurement that gave an indication to the crew and an alert that they acknowledged i i can't tell you what they said at that time i don't know what the word was but it it was it was the sort of thing that that when something like that occurs that the crew's response is fairly typical just to let the ground know we see that uh that's how how the routine works and and that was the last transmission from the

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that was the last transmission from the crew that i am aware of and i think as we go you know as we go through and peel this apart we'll we'll you know we'll have more more information like that that we can share with you okay i got time for two more questions here before i need to go to the other nasa centers grab this gentleman and then this young lady on the next route elizabeth lee with khwb television um a brief loss of communication has that happened before during re-entry and if so when you did lose communication was there still hope that perhaps it was just brief and at what point did you realize that was it was something more grave we lose communication from time to time for various reasons we certainly lose it during the orbit phase we've lost it sometimes for a whole revolution of 90 minutes on entry though we we understand that any dropouts generally are brief and if they do occur they occur during the peking time frames when the plasma around the vehicle as it is at its maximum extent and so a brief a drop out at this time period is there's no reason for us to be concerned our experiences we gain it back fairly quickly our concern at this time was that as we made several calls to them they did not respond we made several more calls to them via uhf which is usually as reliable as anything and they did not respond and it became apparent to us that we were in difficult circumstances okay last question right there go ahead when you guys first got that anomalous sort of readings where you're unclear you know something strange is going on at that point was it was it a situation where you guys were committed i mean there was nothing you could have done about it

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you could have done about it as soon as when you first saw those readings that the the uh you know that you things went blank or whatever was there any any corrective action whatsoever at that point that you could have done nothing that we could do just observe and see if there was any going to be any future downstream impact to the landing in fact if this if that's all we did was lose those 12 odd sensors no impact of this flight at all we would have come back and repaired the sensors they don't impact the flying qualities of the vehicle they don't impact the insight into into how we control the vehicle all they do is provide us information on how the system's performed so that when we turn around the vehicle for the next flight gives us indications of where we should look did not affect and would not affect the flight given just the censor by itself okay let's go to the kennedy space center in florida for questions please yes this is marcia dunn of the associated press ron i have a written report from earlier in this flight that there was a potential for a large damage area to the tile and given that i'm wondering how and why was it deemed a deminer by nasa and do you have any idea how much of a damage area may have been left on the left wing and how big that piece of foam was it came off we have a pretty good idea how big the size of foam was what we don't understand very well was what the actual impact did to the tile and so we have to use our analysis and our engineering expertise to help us understand how a piece of foam of certain weight and density impacting the wing at certain velocity what it does to the tile and our experts gather together and we've we have people in this system that have worked on these tiles since the beginning

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the beginning of the program and we understand how the tiles function we understand the tile's ability to withstand damage we understand the thermal characteristics of the tile both on the surface of the tile and at the base of the tile and as we as we got together and reviewed this information we were convinced technically and analytically that the tile would not the the impact of the debris on the tile would not represent a safety of flight issue in fact we were anxious to come back and get the the handheld film that the crew takes as soon as they get to orbit of the external tank as it's moving away we ask them to take pictures of the external tank so we can understand exactly where the foam was shed from the tank and we were anxious to get that piece of information because we felt that we needed to analyze it so that it would not occur on future flights we we have a flight readiness review coming up for the next flight it was scheduled for february the 20th and we knew we had some technical work to do to make sure that we understood why this piece of debris came off we were not concerned with columbia we felt we had analyzed that and we felt we understood it such that it was not a thermal concern to us did not represent a control issue or safety flight issue and i again i'm going to caution you that that that is the case today we have no information that would say that is not the case we are going to go look at it again to see if there is a connection between what milt talked to you about and the fact that we had a debris impact on the tile and there's some other things we need to go look at the tile is just one and and so uh we were satisfied

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and and so uh we were satisfied that we did the proper work uh and across the community our safety our quality our crew members our flight controllers and the program management reviewed the technical analysis and agreed to a person that was not an impact to this flight so we need to go back and look at that of course but that's the event says they unfolded hitler from florida today i i'm sorry to ask another question about the external tank but has this happened before has foam come off the tank has it impacted the shuttle and what were the consequences that you saw we had an event on sts-112 just several flights ago where a piece of debris from the same general area was shed by the tank and this particular debris and i can't tell you today whether it's of the same general size but it came from the same general area and it impacted the the aft skirt on one of the boosters superficial damage occurred when we got the booster back in port and looked at it evaluated it reviewed it technically discussed it at the following flight readiness review which was sts-13 we as an agency has a shuttle program decided that that did not represent a technical safety risk to us we have from time to time debris ice can come off the tank uh frost pieces of debris and they impact the bottom of the vehicle uh several years ago we had we had a a problem where we were as we

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we had a a problem where we were as we were during the launch phase we were popcorning pieces of this insulation on the tile it would effectively reach a certain point in acid it would popcorn out and impact the bottom of the vehicle and it would cause damage to the tile but not damage that was a concern from a safety standpoint damage that when we got back we had to repair or maybe replace a tile we have subsequently fixed that problem and as we were looking at this particular problem of debris shedding in this one bipod region on sts-112 we said well we've got an area that we need to fix and we have a turnaround discussion but not a safety-flight issue we flew sts-3113 we didn't shed any external tank debris on sts-107 as we looked at the films on the following day we saw the same type of debris being shed from the same location in this case it didn't impact the booster it impacted the left wing so again two occurrences in the last three flights is certainly the signal to our team that something has changed it did not represent on the first occasion an alarm from a safety point of view it represented a turnaround processing issue as we go forward in our investigation we're certainly going to look in this area and and determine whether or not this was a contributor to the loss of colombia and the loss of the crew this is mike cabbage with the orlando sentinel ron could you talk a little about cool and what all was involved in the analysis of the tile issue after launch did you ever give any thought to using telescopes to look for signs of damage to the orbiter and if you had detected extensive damage to the tps is there anything you could have done with the angle of attack or anything

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with the angle of attack or anything else during reentry to have reduced stress on that part of the vehicle the easy part of that question is there's nothing that we can do about tile damage once we get to orbit we can't minimize the heating to the point that that it would somehow not require a tile and so once you get to orbit you're there and you have your tile insulation and that's that's all you have for protection on the way home from the extreme thermal heating during reentry we have experience in the past of having events that have occurred that have occurred that would that we have assessed using other assets to maybe get a close-up look at the bottom of the orbiter recall a year or two ago we lost the drag chute door right at liftoff it fell off and we actually tried to take some pictures of the back end of the vehicle to see what was really there so that we can understand our thermal heating in that case and those pictures that we received were not very useful to us so that was part of our background combine that our feeling that we didn't believe the pictures would be very useful to us with the fact that there was not much there was zero that we could do about it and in this case we elected not even to take the pictures we believe that our technical analysis was sufficient we couldn't do anything about it anyway we were in the best possible position and so we elected not to take any pictures from any other sources and that's the way that played out so we have heard now from the folks at nasa obviously they are all hurting they all worked very closely as a team

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worked very closely as a team as you heard the briefer the deputy administrator worked very closely in fact with one of the astronauts who was lost in today's downing the catastrophic failure of the shuttle columbia we know much more than we knew earlier that many detections were made on the ground of anomalies on board the spacecraft at the late stage of the flight just before breakup and then impact of the debris among them heat sensors and also the notion of a piece of foam debris having caused some sort of damage to some one or more of the heat shield tiles has now been brought up we have a piece of us a computer animation for you to show you the path the final glide path of the shuttle columbia this was early this morning this puts us around 9 00 a.m again on its final descent an altitude of 200 000 feet 38 miles and change above the u.s at 18 mach a lot of the wreckage landing over an area several towns long in the eastern part of the state of texas and from satellites in space obviously you see a line of showers there in the picture the green circle but this shows we are told not thunderstorms the orange and red and yellow animation the streak right there rather the debris shield the debris shield following the explosion and breakup of the shuttle again the green on the radar is just ground clutter around the shreveport louisiana area but we are told that this loop of satellite from texas this morning shows the electronic echoes coming back from debris landing from the shuttle let's go to nbc news chief science correspondent robert bazelle and bob we have heard from this briefing

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and bob we have heard from this briefing how to put this that one is to is true and two is true but they may not add up to make three in this case correct well acts actually absolutely brian i think any veterans of these investigations will tell you that it's very important not to jump to conclusions in the first few hours but anyone who listened to the briefing can tell that they spent a lot of time talking about a piece of insulation that fell off the external fuel tank which is the big orange thing that we see in the middle of the below the orbiter during launch we see it right there when it was launched on january 16th a piece of insulation fell off that fuel tank i don't know if you'll see it in this picture or not but a piece of there you see a piece of insulation came off and it struck the orbiter on the left wing underneath the left wing now that could be a critical part of information point of information because that's where the thermal protection tiles are those protection tiles are what preserves the orbiter as it comes in in from space on its weight or toward ground and it's very significant that the orbiter blew up uh just at the time when the temperature is at the maximum as it's it encounters this enormous amount of friction from the atmosphere as it's coming in towards the ground now we heard the officials at mission control saying that they were aware that that piece of debris had struck the left side of the orbiter uh that they analyzed that data and that they decided it was not a problem it was also significant that they said during the interview that even if they had decided there was a problem there wasn't much they can do about it the question was asked well could they have done a space walk to go out and look and see if the tiles were intact and the answer was they did not have that capability that they only had redundancy and they hope that the other tiles would stay in place so you can certainly unfold the scenario where that piece of debris hit the shuttle on the left side there and caused a hole to be there which would allow heat to come in and cause the shuttle to explode it's also could be a critical part of this scenario that the first temperature sensors that were that the

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temperature sensors that were that the mission controllers couldn't see were on the left side so that's where they first lost the contact with the telemetry from the vehicle as it was entering uh on its way back to earth the other thing is that the other sensors within the vehicle's wheels inside where the wheels are and other hydraulics did show an increase in heat right afterwards that was the second event that happened so there is a likely scenario here that there was a defective tile that the heat of reentry caused the heat to come into the orbiter that the orbiter then flew apart because of the excessive heat that's all of course a theory and it's a theory that seems to make sense in these first few hours of the investigation the people in mission control said that they're going to spend 24 hours a day for the foreseeable future pouring over all the data that they that came in the telemetry that came in during the orbiter's descent they'll also be looking again and again at those pictures we just saw i think of the of the tile damage to think that whether that tile damage could have been a possibility they said they ruled it out right after the launch but they're certainly not going to rule it out now and they will be looking at every other aspect of the descent to try to figure out what happened again it's very early this is the first clue it's the first but it's and there's a tile that we see on the ground that fell off the shuttle and landed somewhere in texas uh it's very early in the investigation we don't know what happened but this scenario with a piece coming off the tank hitting the left wing causing tile damage is the most likely scenario right now however we have to emphasize that the investigation is only in its first hours brian robert bazelle here with us in new york and let's go to a man who has uh flown this spacecraft rick hauck is with us from washington you've been listening intently right along with us we we see a temperature elevation in a uh if i read this correctly in a break line and a tire temperature increase we know from that there is hilt heat infiltration from somewhere but as

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heat infiltration from somewhere but as i said to bob putting one to two together and getting three is another matter entirely right well the the the coincidence is striking about the piece of insulation coming off the external tank i'm sure that in hindsight they wish that they had taken the photographs that ron ditteboer was talking about even though it may not have afforded them any information i'm talking about photographs from ground telescopes i can understand why they didn't do it but now that something's happened they'd probably like to turn back the clock just as in terms of a diagnostic it's i think we've certainly learned a lot more the the loss of signals most of these were loss of signal we did have the increase in the landing gear uh wheel well brake lines and tire temperatures and uh and then the loss of all the data at 207 000 feet so they've certainly got one path to go down to try to understand what's happened and i think by the way ron and milt are consummate professionals i worked with them when i was back in the space shuttle program they said let's be careful let's not get distracted from other possibilities and i'm sure that this is one area that they will be looking very closely at now let's see here where did where to begin uh they both when the levels were elevated they were still the readings were still below minimums correct it could have had it come all the way to fruition landing and shocks under the wheels they would have perhaps gone back and said you know we saw some we saw some elevated temperature levels there on final approach correct uh yes i'd take it that way brian and so that was not in and of itself uh at all fatal uh readings it's just that we now know it was an indicator of something to come right and that occurred at 8 56

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right and that occurred at 8 56 eastern time and they lost all data about three minutes later so would be interesting was it still trending up when they lost the data but but that's just just a one one of the signatures i was interested in one of the questions by one of the news people they said that an astronomer in owens valley if i got it correctly had seen some debris coming off and ron dittemore answered the question as if that was someone in hawaii now i believe the owens valley is in california that's right and so i certainly understand ron's point that anything over hawaii would not be interesting to them but over california there might be something interesting there we want to bring in one of your former colleagues winston scott spent 24 days in space on two missions on the columbia and the endeavor he knew all of colombia's crew members he is with us by telephone mr scott do you concur with what you've been hearing us talk about the analysis so far by rick houck ah evidently we don't have winston scott we've been endeavoring to bring in his phone call we will continue to rick when you have readings like this would how much of the crew how much would the crew have been aware of we know there was a transmission at least on the tire temperature right some of these readings are are read on the scopes within the shuttle if if it's not on the shuttle you get a heck of a lot more data down to houston than you have on the shuttle and if in fact there's no immediate threat deemed by houston if they see some different trends and temperatures or pressures they won't call the crew on every every single excursion and as ron or milt said periodically you do have losses of signals

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signals like you've lost a multiplexer demultiplexer or something and that in and of itself would not be a crisis situation and how many elapsed seconds are we talking about that the astronauts would have known of some elevated level somewhere well since that they didn't mention it until right towards uh or they i guess they didn't mention it houston said we see your elevated temperatures right so my guess is the crew saw it and thought well okay that's not a big deal yet uh it's i i could not speculate as to how long it had been uh from the time that they may have seen it okay we want to bring in nbc news correspondent chip reid who has a special example for us uh just what it's like inside this spacecraft and where they would have been looking in the final moments here chip well brian this is a mock-up an actual scale model the real thing uh it was actually based on the columbia itself right down to the numbers on the individual heat tiles these are actually technically known as ablatement tiles heat shield tiles they protect the shuttle as it's entering the earth's atmosphere and right here just like on the real thing three very thick pieces of glass this was built for movies and also as an educational tool it's been an armageddon it's been in space cowboys it's been in deep impact this is one of the jump seats where a mission specialist would sit in fact sally ride the first woman american woman in space was in this at one point in the process of making an educational video and she said that it was so realistic it was spooky this is the back half of the flight bridge it's on wheels you can give it a little bit of a tug it's about 1500 pounds if we had a few more people you could wheel it up here put it together with the front front half of the flight bridge which of course is the cockpit and these are the two gentlemen by the way the last two movie stars who were in here were clint eastwood and tommy lee jones these are not clint eastwood and tommy lee jones but they know vastly more about it and brian lest people think this is about hollywood fun

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people think this is about hollywood fun and games it is not these people consider nasa family they consider the shuttle and the space program absolutely sacred it has been part of their lives pretty much all their lives this is brick price and john palmer and i assume you two exchanged a phone call today shortly after this happened that was my wake-up call from john he said that he sounded very down and i knew something was wrong immediately and they said that the columbia had exploded on reentry and shocking to me and you have been with this particular model for how many years and you don't just use it for hollywood this is an educational tool you believe there is great value in teaching children and others about the space program and the shuttle in particular oh absolutely the most valuable asset we have is the children because they really give us our future so we use this in educational programs educational films museum museum work well educate us a little bit this is the cockpit this was a blueprint model the actual original columbia but it has changed since then they've gone to what is known as the glass cockpit yes that's true basically from here to the roland bank and card compasses on the other side this is no longer three-dimensional it's just a sheet of glass covering i think it's six monitors that throw all of this information up on the screen so that it's it's clean and it's all digital and it's modern and columbia had this done i think three years ago now how would this differ from flying say a commercial jet i think you were saying earlier they call this what the flying brick is that the term they use for a shuttle yeah yeah it's well obviously it comes in has no engines so it gets one pass at landing uh it's about 45 tons when it comes down it certainly is computer controlled but they have a manual override in case something were to happen uh it's i haven't ever heard an astronaut say it's hard to fly it's just different i mean you couldn't take a 747 captain and put him in here and expect him to fly you were telling me earlier about the respect you have

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me earlier about the respect you have both of you were telling me about the respect you have for the women and men who go up in these things tell me about that because you know them personally a lot of them are friends we've met them over the years as a result of what we do and they used to be in aerospace john came from a computer background and um so it is a very tight community and uh to realize that something like this happens it touches us you know to be to be in this involved in this this way and you said you use it as an educational tool give me an example of the kinds of things you've used this very model for well we've offered it to schools on a gratis basis so that they can bring students through here and show them what it is the shuttle's all about give them some inspiration to become astronauts perhaps or work in the space program we've worked in a lot of museums we have 25 of these around the world that we've built in the past 25 years so that's an average of one a year do you fear that an event like this horrible tragedy today is something that could set back the space program and the mission of the shuttles no no more so than when pioneers came across country to settle the west and there were thousands of people that were killed during that there is some risk of course but it's a calculated risk and the people who are involved know that there is that risk and they embrace it and we're very much behind the space program obviously it's hard to say i was devastated this morning when it happened i saw it about seven o'clock i called brick got him up we're like the cousins of nasa we produced film for nasa we produced museums i didn't know any of these astronauts but it was you know it's community we know buzz aldrin and sally ride and dave scott and you know we know a number of them so you feel that not just americans but a tremendous personal loss once a tragedy like this happens so brian as you see uh nasa has a very big family probably uh the entire american uh public and probably a lot of people around the world but having spent a good deal of time here this afternoon with these gentlemen and the other people here uh this is really hitting hard here chip

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uh this is really hitting hard here chip reed our thanks as well to brick and john there at the simulator and we again want to just revisit this for a moment we have another guest eyewitness we're going to bring in i want to go briefly back to rick hawk rick i interrupted you earlier for the news conference we were talking about flying a commercial jet in your case a 7-4 versus flying the shuttle what the stick felt like in both what was the comparison you were about to make right well i i did have the opportunity to fly the 747 and in and c135 both big airplanes and various once you're subsonic once you're below the speed of sound and that's the last three or four minutes of flight so very responsive i recall in my first uh landing after my first flight in 1984. i was as tired as i've ever been i had concern that i wouldn't have the alertness but good old adrenaline did its thing and and i i think i did a pretty good landing by all evidence you did tell us more about these tiles it's such an ephemeral notion to people who can only compare them to the tiles they know in a bathroom or a kitchen how big are they how much do they weigh and how much of a science is fitting them in because they're going to be under such scrutiny now for this next flight right well the tiles are for the most part the black ones that that form the black surface underneath the space shuttle right here they are about eight inches by eight inches and various thickness each one is serialized and is carved specifically to fit at that particular point twenty thousand of them that cover the bottom and over the years i think they've proved their value they are attached with a kind of a glue they're they're filled with water something to keep the water from intruding during rain and so forth or rain prior to launch

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to launch and i think the history 100 and some flights not really having a problem once with the tiles gives them some sense of comfort that you should expect it to be safe in future flights but it is personnel intensive the individuals down at the facility in the kennedy space center that work on the tiles are trained experts and they replace them regularly when the shuttle lands on the runway sometimes dirt maybe a rock kicks up and scrapes one so changing those tiles and and studying them after every flight is is the normal course of business if you're just joining us rick hauck was the pilot of the shuttle mission that followed the loss of the challenger rick one other question i had coming out of the briefing one of the briefers and i forget which one said about a set of data we don't have the seconds yet is he talking about redundancies that are recorded somewhere no i think he was giving a timeline and he and he gave you the central uh standard time 853 856. what he wanted to tell you was he didn't have it down to the second okay so 853.05 0607 i get you okay thank you we want to bring in now a uh an eyewitness to uh some of what transpired today in texas dennis corder is with us he is uh public utilities director in san augustine texas and uh uh dennis i'll let you tell the story from what you started seeing and hearing this morning your time uh can you hear me yep go ahead hi this morning early about a little bit before seven o'clock i was outside and saw a streamer you know the rooster tail whatever they call it the jet stream from the shuttle where it came over and uh i went back inside and sat down i was watching the new show as a matter of fact and early morning and the the roaring

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and the the roaring started and the house started shaking and windows vibrating and i got up and went back outside and my wife came running to she was still in bed woke up came running out i don't know what was shaking the house and i thought i wasn't really sure you know it sounded like an airplane crash and i understand you had some debris there how long after the roar did did something fall oh probably ten minutes ten minutes like that i was walked around i had time to come in i heard it come outside look around out front and i walked around out back and i could hear it kind of a whistling sound just reminds you the old noises they made for bombs in the movies and it came it came out it wasn't i found it it wasn't a very big piece had a little cloud of smoke behind it probably about eight or ten foot long he came down and hit a tree in the woods in the back of the house um i came back in and was watching the news show and they had mentioned that they had lost communications with it which wasn't unusual for short periods of time but they went on and said about 10 or 15 minutes later they couldn't get received communication on and i just kind of assume that's what it was i call nasa tried to tell them i'd seen debris falling out of the sky but at that time i guess they said they were trying to monitor the situation and when i don't guess anybody knew exactly what was going on at the moment so this was long ten minutes after eight our time this morning or really about five after eight went over the uh i was first looking for it and heard the sound and this was long before you knew the warnings about going near this stuff oh yeah oh yes it was it was a good bit before it but i just went out there to see what it was i was kind of curious what what was falling do you know of any

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what was falling do you know of any other debris did your neighbors get uh similar pieces of debris anybody else in town yes sir we're fine and we have the fire department has command posts set up right down the road at a little church and we're finding debris all over the county all out all in town all out in the county roads and there's no telling what's in the woods that hadn't been found yet anything identifiable to you i'm not really i'm not technical enough to really know what that i'm not sure what i found i just know it's a piece of metal with a bunch of bolts in it what was the moment you realized what you had seen in the sky uh about whenever they claimed they couldn't receive communication back with it i assume that's what it was i don't know that you know that was exact time boy i know it's been a a busy day for you already this saturday dennis corder uh public utility director in san augustine texas uh wish we didn't uh have to have this conversation knowing uh what you found uh was in relation to this terrible loss of life today thank you very much uh for being with us and i'd like to go back to uh rick houck rick you've been watching along with us some of this videotape we've been rolling in during our conversation it often includes new pictures that are new to us any of these what was almost the size of a cash box with a a handle on it any of these identifiable parts to you any of the joints the hinges well i saw some one box that i think you're referring to that well that piece right there i'm guessing might be part of a leading edge of a wing those pieces there look like some of the thermal blanket that might have been inside the shuttle or even on the top of the wings there are thermal blankets on top of the wings but there's a lot of that material on the space shuttle there was another piece that you might be going to yeah right here yeah well that's that box and i don't

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yeah well that's that box and i don't of course it's uh i i could only speculate but that's an electronic box there there was another piece that looked like a big kind of a u-shape or c-shape that was lying on the ground that almost looked like it could have been part of one of the wings but it's hard to tell from from these pictures it's a it's an awful ghoulish business isn't it i mean after all we're talking about what was the vessel for seven souls today yeah it is and and it's difficult for everybody and and if i could just re-emphasize to all your listeners you are doing the country a great favor if you uh number one don't try to pick up any of this and let nasa know where the pieces are there's a great urge to keep souvenirs but please do not do that please make sure nasa is aware of where the pieces are and number two if you were at a vantage point where you have home video of this and recorded from where you live what it looked like they would very much like to see because no two views of this are different that's true every angle is different how we saw such a long delay after challenger before you were allowed to take off yeah is there any knowing as we sit and have this conversation late in the afternoon on the day of this incident if it's going to be that long a shutdown this time or if external forces like knowing we have astronauts at the international space station will will force their hand well my guess is that we won't have that certainly that long a down time that's a pure guess but after the challenger accident nasa really felt it was necessary to restudy all of their internal organization the safety process as well as the hardware and that was very fruitful i think that nasa became a stronger organization as a result of that study and i doubt that they've lost the organizational improvements that they have there

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